SECTION 08.11.13
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Non-fire-rated hollow metal doors and frames.
B. Hollow metal frames for wood doors.
C. Fire-rated hollow metal doors and frames.
D. Thermally insulated hollow metal doors with frames.
E. Hollow metal frames for fiberglass doors.
F. Accessories, including glazing.

1.02 RELATED REQUIREMENTS
A. Section 08.16.13 - Fiberglass Doors.
B. Section 08.71.00 - Door Hardware.
C. Section 08.80.00 - Glazing: Glass for doors and borrowed lites.
D. Section 09.91.13 - EXTERIOR PAINTING: Field painting.
E. Section 09.91.23 - Interior Painting: Field painting.

1.03 ABBREVIATIONS AND ACRONYMS
B. HMMA - Hollow Metal Manufacturers Association.
C. NAAMM - National Association of Architectural Metal Manufacturers.
E. SDI - Steel Door Institute.
F. UL - Underwriters Laboratories.

1.04 REFERENCE STANDARDS
C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
H. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2014 (ANSI/BHMA A156.115).
L. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

1.05 SUBMITTALS
A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.
B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.
C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.
D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.06 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 10 years documented experience.
B. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes installation requirements.

1.07 DELIVERY, STORAGE, AND HANDLING
A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Hollow Metal Doors and Frames:
   4. Substitutions: See Section 01.60.00 - Product Requirements.
### 2.02 DESIGN CRITERIA

**A. Requirements for Hollow Metal Doors and Frames:**

1. Steel used for fabrication of doors and frames shall comply with one or more of the following requirements: Galvannealed steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.

2. Accessibility: Comply with ICC A117.1 and ADA Standards.

3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.

4. Door Edge Profile: Manufacturers standard for application indicated.

5. Typical Door Face Sheets: Flush.


7. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

8. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.

**B. Combined Requirements:** If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

### 2.03 HOLLOW METAL DOORS

**A. Exterior Doors:** Thermally insulated.

1. Grade: ANSI/SDI A250.8 (SDI-100); Level 1 - Standard-Duty, Physical Performance Level C, Model 2 - Seamless.

2. Core Material: Polystyrene, 1 lbs/cu ft minimum density.

3. Door Thermal Resistance: R-Value of 6.0 minimum, for installed thickness of polystyrene.


5. Door Finish: Factory primed and field finished.

**B. Interior Doors, Non-Fire Rated:**

1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
   a. Level 1 - Standard-duty.
   b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
   c. Model 1 - Full Flush.

2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.


**C. Fire-Rated Doors:**

1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
   a. Level 1 - Standard-duty.
   b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
   c. Model 1 - Full Flush.

CONSTRUCTION DOCUMENTS PACKAGE

REVISED: 30-DEC-15
2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 (“positive pressure fire tests”).
   a. Provide units listed and labeled by UL (Underwriters Laboratories) - UL (BMD) or WH (Warnock Hersey) - ITS (DIR).
   b. Attach fire rating label to each fire rated unit.
3. Core Material: Manufacturers standard core material/construction in compliance with requirements.

2.04 HOLLOW METAL FRAMES
A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
B. Exterior Door Frames: Knock-down type.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Frame Metal Thickness: 14 gage, 0.067 inch, minimum.
   3. Weatherstripping: Separate, see Section 08.71.00.
C. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
   1. Frame Finish: Factory primed and field finished.
D. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.
E. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
F. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inch high to fill opening without cutting masonry units.
G. Frames Wider than 48 Inch: Reinforce with steel channel fitted tightly into frame head, flush with top.

2.05 ACCESSORIES
A. Glazing: As specified in Section 08.80.00, factory installed.
B. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.
C. Mechanical Fasteners for Concealed Metal-to-Metal Connections: Self-drilling, self-tapping, steel with electroplated zinc finish.
D. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.
E. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.06 FINISHES
A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify existing conditions before starting work.
B. Verify that opening sizes and tolerances are acceptable.
C. Verify that finished walls are in plane to ensure proper door alignment.
3.02 PREPARATION
A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.
B. Coat inside of other frames with bituminous coating to a thickness of 1/16 inch.

3.03 INSTALLATION
A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
B. Install fire rated units in accordance with NFPA 80.
C. Coordinate frame anchor placement with wall construction.
D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
E. Coordinate installation of hardware.
F. Coordinate installation of glazing.
G. Coordinate installation of electrical connections to electrical hardware items.

3.04 TOLERANCES
A. Clearances Between Door and Frame: Comply with related requirements of specified door and frame standards or custom guidelines indicated.
B. Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.

3.05 ADJUSTING
A. Adjust for smooth and balanced door movement.

END OF SECTION